

### REMARKS

Claims 1-10 and 17 have been previously canceled and claim 18 is cancelled herein. Claims 13 and 15 have been amended and no new claims have been added or canceled by way of this response. Thus, claims 11-16 and 19 are currently pending and presented for examination. Applicant respectfully requests reconsideration and allowance of the pending claims in view of the foregoing amendments and the following remarks.

#### Response to Rejections Under Section 112:

The Examiner has rejected claims 13 and 15 under 35 U.S.C § 112, second paragraph, as being indefinite. Applicant has amended claims 13 and 15 to resolve the indefiniteness issues and respectfully request the Examiner withdraw the section 112, second paragraph rejections.

#### Response to Rejections Under Section 102:

Claims 11-15 and 19 stand rejected under 35 U.S.C § 102(b), the Examiner contending that these claims are anticipated by Birkner et al (USPN 6,582,194), hereinafter Birkner.

In the instant Office Action, the Examiner contends that Birkner teaches Applicant's claimed invention. As a preliminary matter, Applicant would like to characterize the invention of Birkner to highlight the structural differences between Birkner and Applicant's claimed invention.

Birkner teaches a hollow cooled turbine blade for use in a gas turbine. The blade 1 has a hollow interior 4 (see Fig. 2; and col. 4, lines 20-24) that the Examiner has identified as cavity "A." The hollow blade 1 has a wall 1 (see Fig. 5; and col. 4, lines 18-19), comprising a plurality of impact cooling bores 8 arranged between peg-like elevations 5 (see Fig. 5; and col. 4, lines 25-28). Bonded onto the top of the peg-like elevations 5 and surrounding the blade 1 is a shell like covering coat 9 (see Fig. 5; and col. 4, lines 42-60) where oblique film-cooling bores 10 are formed in the covering coat 9 to film cool the exterior of the blade in operation (see Fig. 5; and col. 4, line 65 to col. 5 line 5). The intermediate spaces 7 are therefore defined by the outer surface of the hollow blade 1, the inner surface of the covering coat 9 and the sides of the peg-like elevations 5 (see Fig. 5; and col. 4, lines 29-65). The blade functions where cooling air is directed from the hollow interior 4, through the impact cooling bores 8 into the intermediate spaces 7 and then out of the blade 1 through the oblique film-cooling bores 10 into the hot gas

flow path (col. 4, line 65 to col. 5 line 5). Applicant points out that the blade of Birkner is configured to such that the same fluid (cooling air) flows through all of the passages, hollow interior 4, impact cooling bores 8, intermediate spaces 7 and oblique film-cooling bores 10.

Applicant's claims 11 and 19 both recite in part:

an outer wall exposed to a hot gas,  
a first cavity partly defined by the outer wall and for a first medium,  
a plurality of through-openings arranged in the outer wall where the through-openings open into the first cavity on a first side and into the hot-gas space on a second side, and  
a second cavity for admixing a second medium, the second cavity being fluidically connected to the through-openings,  
wherein the second cavity is formed by supply passages that are provided in the outer wall and are connected via transverse passages to the through-openings designed as through-bores, so that the two media cannot be mixed until inside the through-bores.

In the instant Office Action, the Examiner contends that Birkner teaches Applicant's claimed invention relating to claims 11 and 19. Specifically, the Examiner contends that Birkner teaches "an outer wall exposed to a hot gas 9 (fig. 5), a first cavity A (fig. 5 above) partly defined by the outer wall and for a first medium ...." Applicants respectfully submit that because the outer wall is item 9 (covering coat 9), then the first cavity, which must be "partly defined by the outer wall," must be the intermediate space 7, and not the hollow blade interior 4 (or "A") as contended by the Examiner.

The Examiner further contends that the "plurality of through openings," which identified in the Office Action as holes "B" are "oblique film-cooling bores 10" and "impact cooling bores 8." However, the claim language requires that the "plurality of through openings" must be "arranged in the outer wall where the through-openings open into the first cavity on a first side and into the hot-gas space on a second side," which therefore makes the "through openings" of Birkner **only** the "oblique film-cooling bores 10," and not the "impact cooling bores 8" as identified by the Examiner (see Birkner col. 5, lines 1-5; and OA page 4, Fig. 5).

Moreover, The Examiner contends that the second cavity is the space identified as "D" in the Office Action, figure 5, which is the "intermediate space 7." However, as discussed above, the intermediate space 7 must be the first cavity. Since the first cavity and the second cavity are distinct claim limitations, **Birkner does not have a second cavity**. Therefore, if Birkner does not have a second cavity it cannot teach "a second cavity ... formed by supply passages that are

provided in the outer wall and are connected via transverse passages to the through-openings designed as through-bores,” as recited in claims 11 and 19.

MPEP 2131 requires “TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM.” Applicant respectfully submits that Birkner does not anticipate claims 11 or 19. Furthermore, claims 12-15 are also patentable at least based on their dependence from claim 11 as well as based on their own merits. Therefore, Applicant respectfully requests that the Examiner withdraw the Section 102 rejections.

Response to Rejections Under Section 103:

Claim 16 stands rejected under 35 U.S.C § 103(a) as being unpatentable over Birkner in view of Triebnigg (USPN 2,647,368) or Stoltz (USPN 3,037,351) or Johnson (USPN 2,981,066).

For at least the reasons discussed in connection with the Section 102 rejections, Applicant respectfully submits that claim 16 is patentable at least based on its dependence from claim 11 as well as based on its own merits and respectfully request the Examiner to withdraw the Section 103 rejection.

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Conclusion

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, Applicant respectfully requests that the Examiner reconsider the rejections and timely pass the application to allowance. All correspondence should continue to be directed to our below-listed address. Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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